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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,962	02/28/2002	Becky V. Berndt	P6495 US	6757

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EXAMINER

NGUYEN, KIMBINH T

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/086,962	<b>Applicant(s)</b> BERNDT ET AL.	
	<b>Examiner</b> Kimbhinh T. Nguyen	<b>Art Unit</b> 2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 15, 24 and 34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 16-23, 25-33, 35-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is responsive to amendment filed 08/26/04.
2. Claims 1-39 are pending in the application.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-14, 16-23, 25-33, 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al. (6,421,711) in view of Tawil et al. (6,625,747).

**Claim 1**, Blumenau et al. teaches graphically displaying source device (a graphical display 140 of disk spreads in 2D and 3D of the host processor; col. 18, line 58 through col. 19, line 47; figs. 14 and 15); graphically displaying target device (col. 29, lines 15-57; fig. 30); displaying a first data path between source device and target devices (col. 13, lines 46-50; path 348; col. 29, lines 49-52; fig. 30); Blumenau teaches to respond to a failure condition (a host has been disconnected from data network (col. 35 line 60 through col. 35, line 6) and does not teach in response to a failure in the first data path; however, Tawil et al. teaches in response to a failure in the first data path (signal path; multipathing driver may receive a failure notification) graphically indicating the failure in the

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first data path (the signal path is determined to have failed or malfunctioned; col. 7, lines 5-15); and Blumenau teaches displaying a failover data path (the graphic user interface also displays the volume allocated to the host and those volumes that are not allocated to any host (failure condition or error; col. 36, lines 9-17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate communication paths taught by Tawil into the graphical user interface for virtual sports of data storage system of Blumenau's system for performing failover operations, because graphically monitoring a failure in the path, the system would identify paths and controllers to enable more efficient, scalable failover within a SAN (storage area network), col. 2, lines 29-31.

**Claim 2**, Blumenau et al. teaches displaying component of application host (host controller port; col. 19, lines 28-30); displaying storage system of target device (volume user; fig. 30).

**Claim 3**, Blumenau teaches eliminating the graphical display of the first data path (any unallocated logical volume should be re-formatted or erased of any pre-existing data before being allocated and selected an item on a list and select a properties to display properties of the selected item (col. 29, lines 49-65).

**Claim 9**, Tawil discloses displaying a third link between the first and second target devices (fig. 2, the link between the first port 66 and the second port 70). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate data paths taught by Tawil into the graphical user interface for virtual sports of data storage system of Blumenau's

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system for performing failover operations, because it would identify paths and controllers to enable more efficient, scalable failover within a SAN (col. 2, lines 29-30).

**Claim 6**, Blumenau et al. discloses displaying a second data path between source device and target device (col. 42, lines 48-51). **Claim 7**, Blumenau discloses displaying two source devices (volume source, adapter port; fig. 30); displaying two target devices (volume user, controller1; fig. 30; col. 35, lines 4-17); displaying the first data path between a first of the two source and target devices; displaying the second data path between a second of the two source and target devices (two full redundant paths; col. 11, lines 62-65; col. 42, lines 48-51). **Claim 8**, Blumenau discloses displaying two host adapters (adapter ports); displaying two storage units (storage devices; col. 30; lines 45-49).

**Claim 4**, Blumenau discloses displaying a first link between source device (host) and target device (SCSI link; col. 9, lines 47-48) and animating the first link to indicate the first data path has not failed. Blumenau does not teach animating the first link; however, Blumenau teaches idle signals are transmitted over the links to enable detection of link failure (col. 11, lines 43-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize The Fiber Channel taught by Blumenau for detecting of a link failure, because it would provide a mechanism for the network to automatically detect certain changes of state which may indicate that the configuration of the system has changed (col. 11, lines 43-46).

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**Claim 10**, Tawil discloses animating the third link (a signal path in a multipathing device driver) to indicate the third link is being used as a failover path (the signal path has failed or malfunctioned; col. 6, line 65 through col. 7, line 20). Tawil does not teach animating the third link, however, Tawil teaches to detect signal path failure or malfunction using a number of techniques such as assigning the port name, rerouting to change the port name (col. 6, lines 45-62; col. 7, lines 5-20) and these techniques would relate to animating. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the rerouting technique for animating the link, because it would monitor the flow of information through different signal paths (col. 4, lines 25-26).

**Claims 11-14, 16-23, 25-29**, the rationale provided in the rejection of claims 1-4, 6-10 is incorporated herein.

**Claims 30-33 and 35-39**, the rationale provided in the rejection of claims 1-4 and 6-10 is incorporated herein. In addition, Blumenau teaches a machine readable program storage device (col. 3, lines 19-22).

#### ***Allowable Subject Matter***

5. Claims 5, 15, 24 and 34 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach ceasing the display of the first link; displaying a red-colored portion on the first link; displaying the first link using a broken line.

***Response to Arguments***

6. Applicant's arguments filed 08/26/04 have been fully considered but they are not persuasive because Blumenau teaches indicating the failure condition between the network and the hosts and using graphical user interface to display those volumes which are not allocated to any host (see the rejection of claim 1). Tawil teaches using controller to perform failover operations if the signal path fails (the failure condition of the signal path). Both methods and systems of Blumenau and Tawil modify together to perform method and system of indicating a failover data path in a graphical user interface for virtual ports (for a cached storage subsystem in a system which includes data network and hosts (user)).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kimbinh Nguyen** whose telephone number is **(703) 305-9683**. The examiner can normally be reached **(Monday- Thursday from 7:00 AM to 4:30 PM and alternate Fridays from 7:00 AM to 3:30 PM)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Part II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

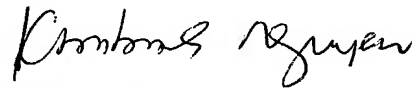
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public



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PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 21, 2004

A handwritten signature in black ink, appearing to read "Kimbinh Nguyen".

Kimbinh Nguyen

Patent Examiner AU 2671